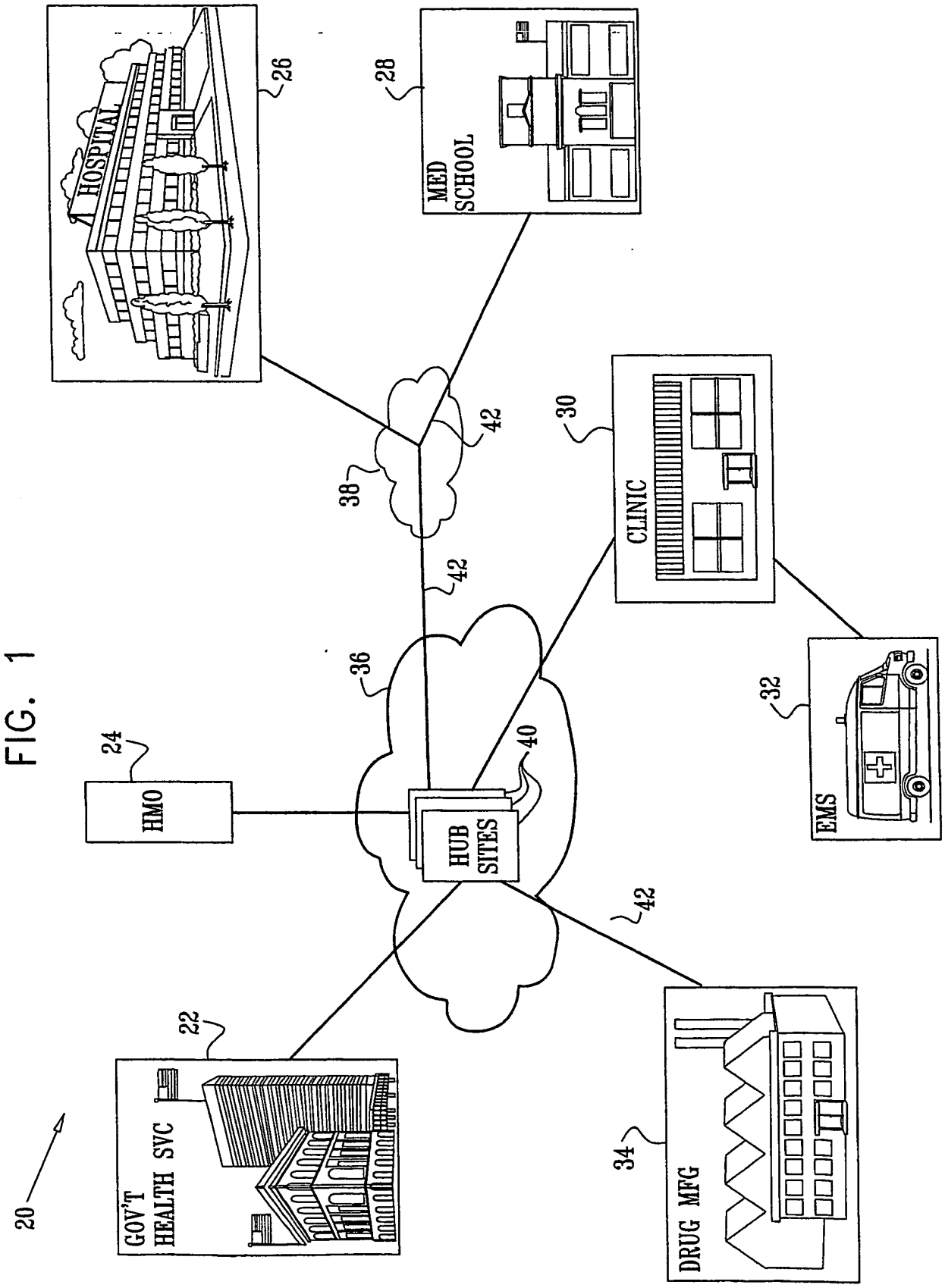

HOSPITAL
26
MED SCHOOL
28
CLINIC
30
EMS
32
DRUG MFG
34
GOV'T HEALTH SVC
22
HMO
24
HUB SITES
40
36
38
42
42
42
42
20

FIG. 1

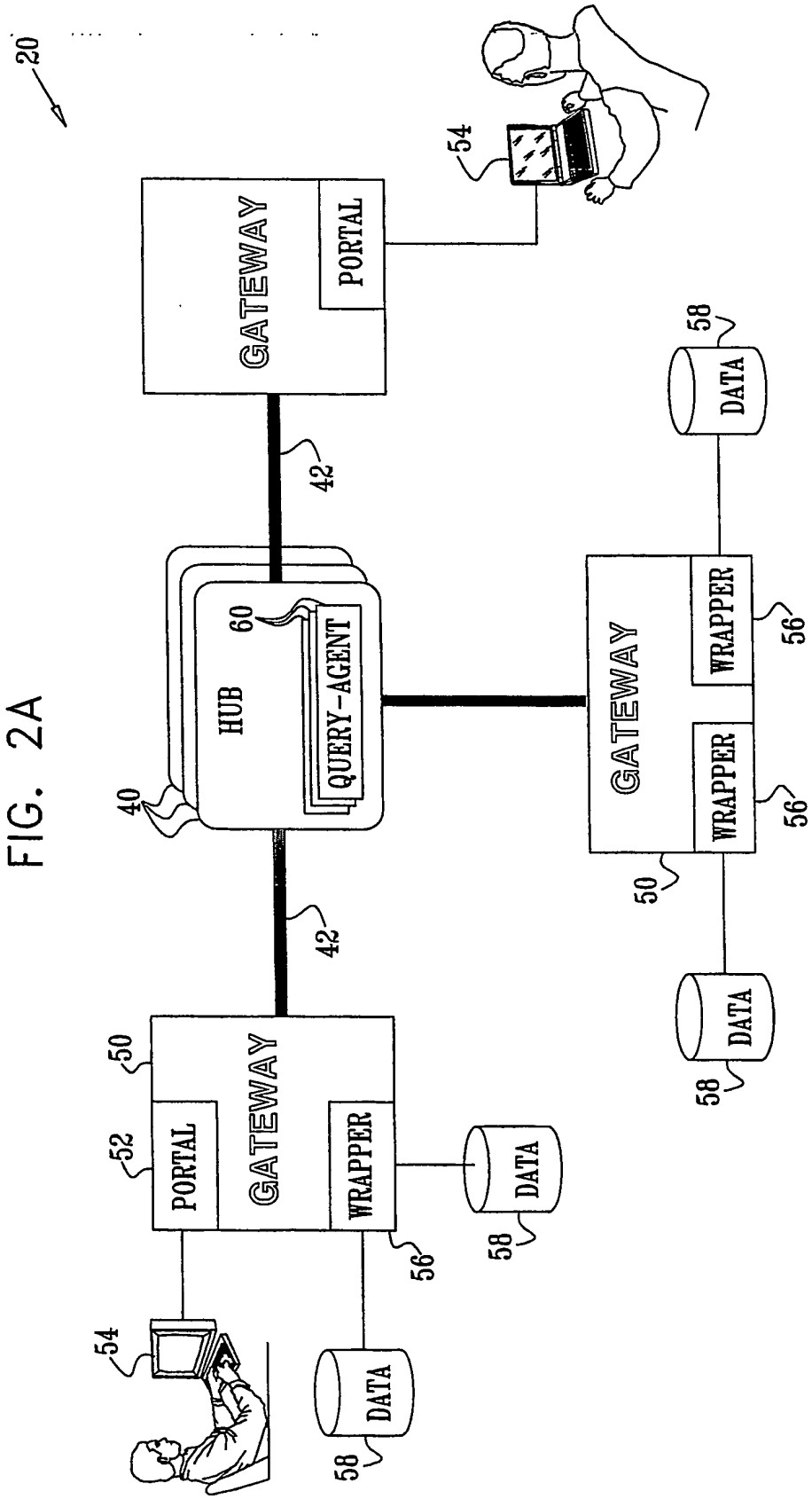

20
54
GATEWAY
PORTAL
42
58
DATA
HUB
60
QUERY-AGENT
40
GATEWAY
WRAPPER
56
WRAPPER
56
50
DATA
58
42
50
GATEWAY
PORTAL
52
WRAPPER
56
DATA
58
54
DATA
58

FIG. 2A

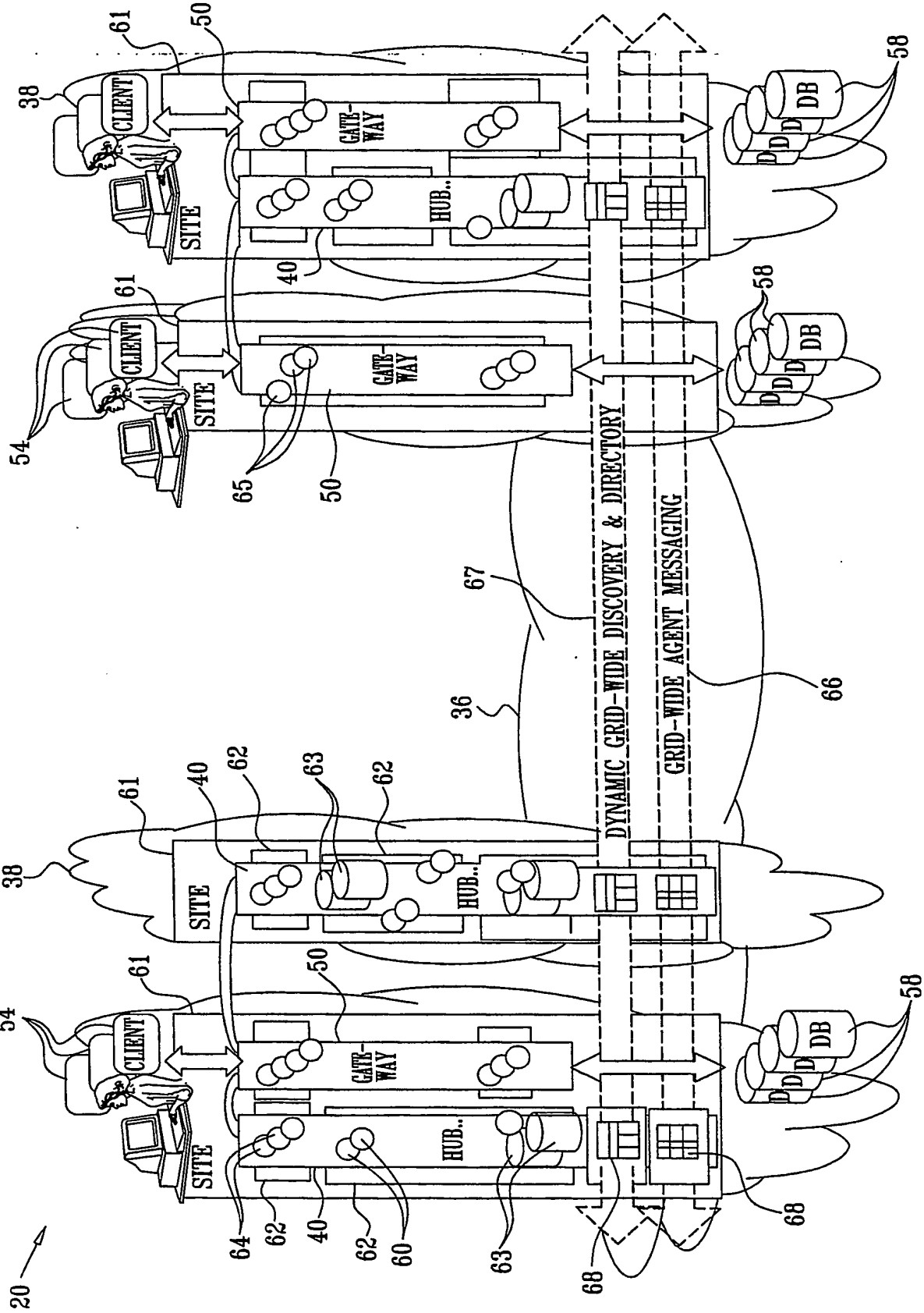

CLIENT
SITE
GATE-WAY
HUB..
DB
DYNAMIC GRID-WIDE DISCOVERY & DIRECTORY
GRID-WIDE AGENT MESSAGING
20
36
38
40
50
54
58
60
61
62
63
64
65
66
67
68

FIG. 2B

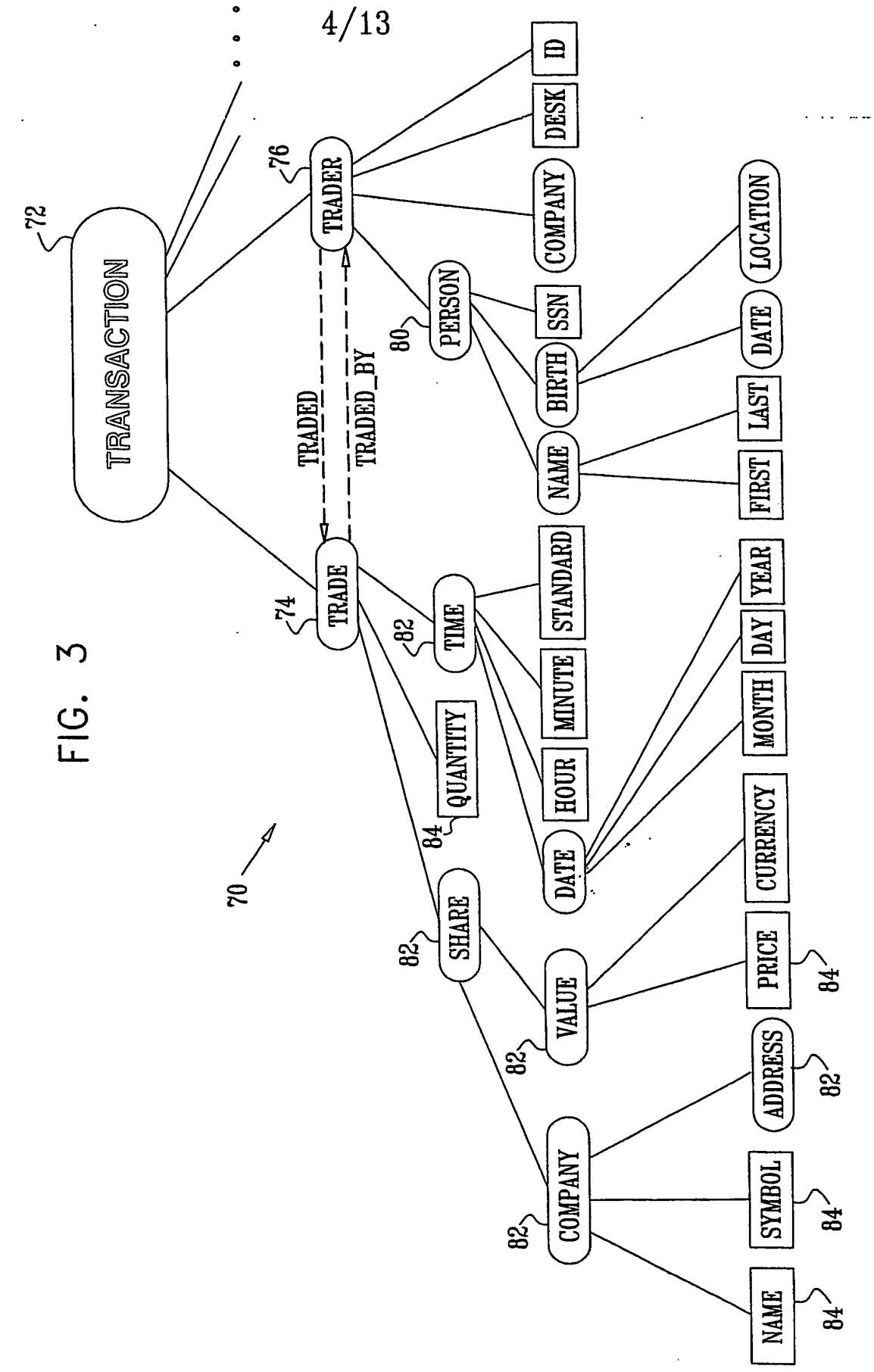

70
72
TRANSACTION
74
TRADE
76
TRADER
80
PERSON
82
SHARE
82
VALUE
82
COMPANY
82
TIME
82
DATE
82
ADDRESS
84
QUANTITY
84
PRICE
84
SYMBOL
84
NAME
TRADED
TRADED_BY
ID
DESK
COMPANY
SSN
BIRTH
NAME
FIRST
LAST
LOCATION
DATE
STANDARD
MINUTE
HOUR
YEAR
DAY
MONTH
CURRENCY

FIG. 3

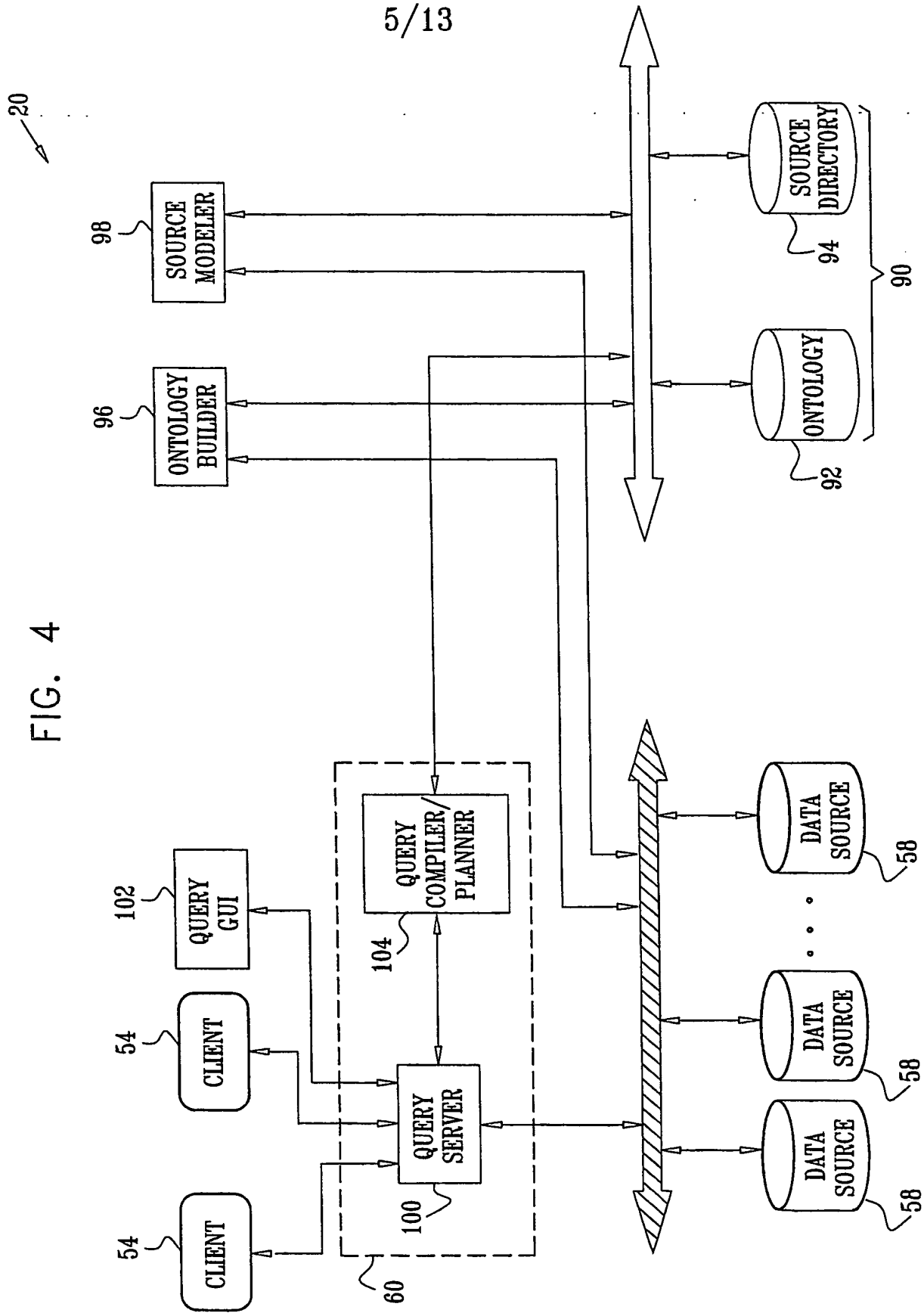

20
SOURCE MODELER
98
ONTOLOGY BUILDER
96
SOURCE DIRECTORY
94
ONTOLOGY
92
90
QUERY COMPILER/ PLANNER
104
QUERY GUI
102
CLIENT
54
CLIENT
54
QUERY SERVER
100
60
DATA SOURCE
58
DATA SOURCE
58
DATA SOURCE
58

FIG. 4

FIG. 5A

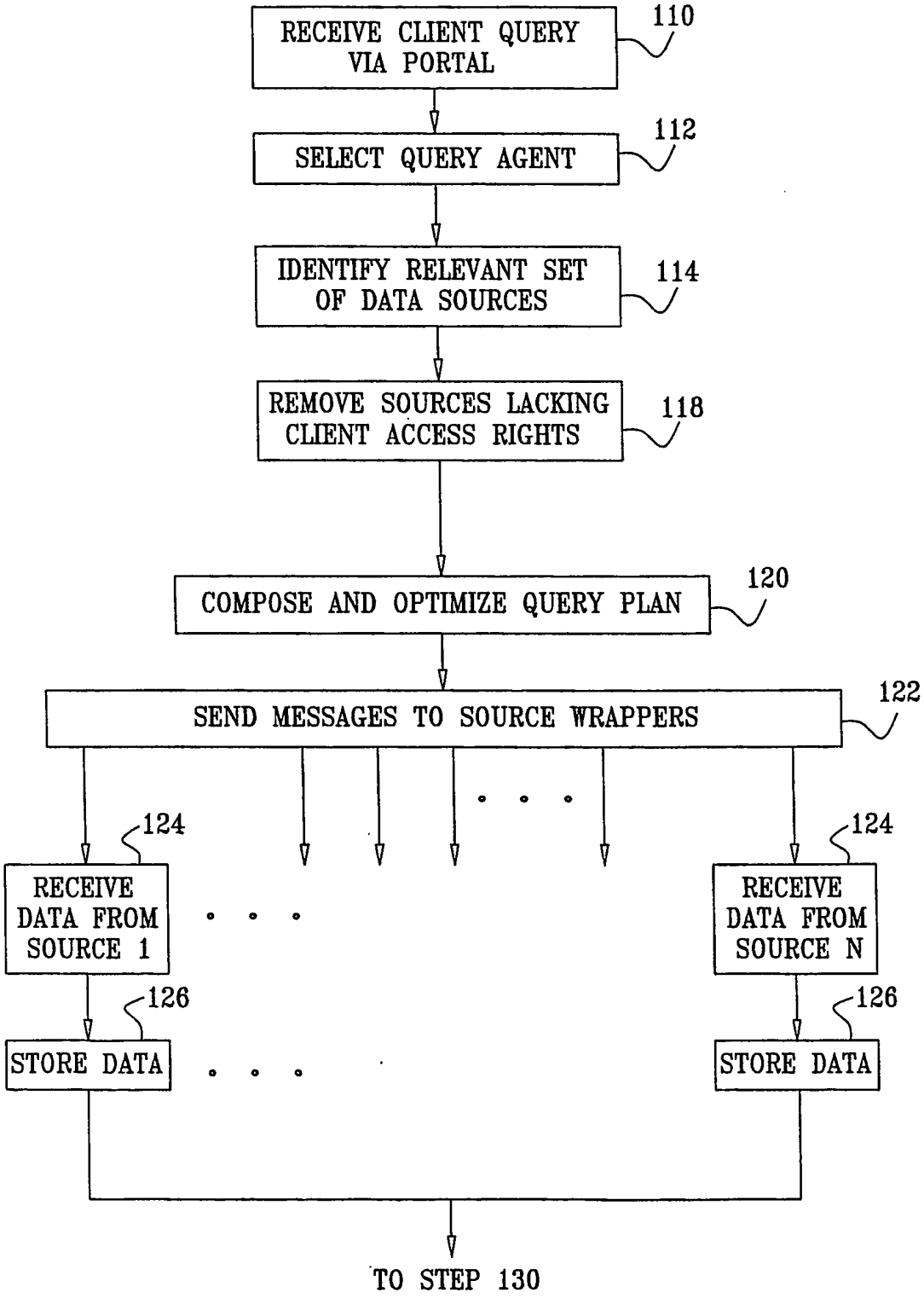

RECEIVE CLIENT QUERY VIA PORTAL
110
SELECT QUERY AGENT
112
IDENTIFY RELEVANT SET OF DATA SOURCES
114
REMOVE SOURCES LACKING CLIENT ACCESS RIGHTS
118
COMPOSE AND OPTIMIZE QUERY PLAN
120
SEND MESSAGES TO SOURCE WRAPPERS
122
124
RECEIVE DATA FROM SOURCE 1
124
RECEIVE DATA FROM SOURCE N
126
STORE DATA
126
STORE DATA
TO STEP 130

FIG. 5B

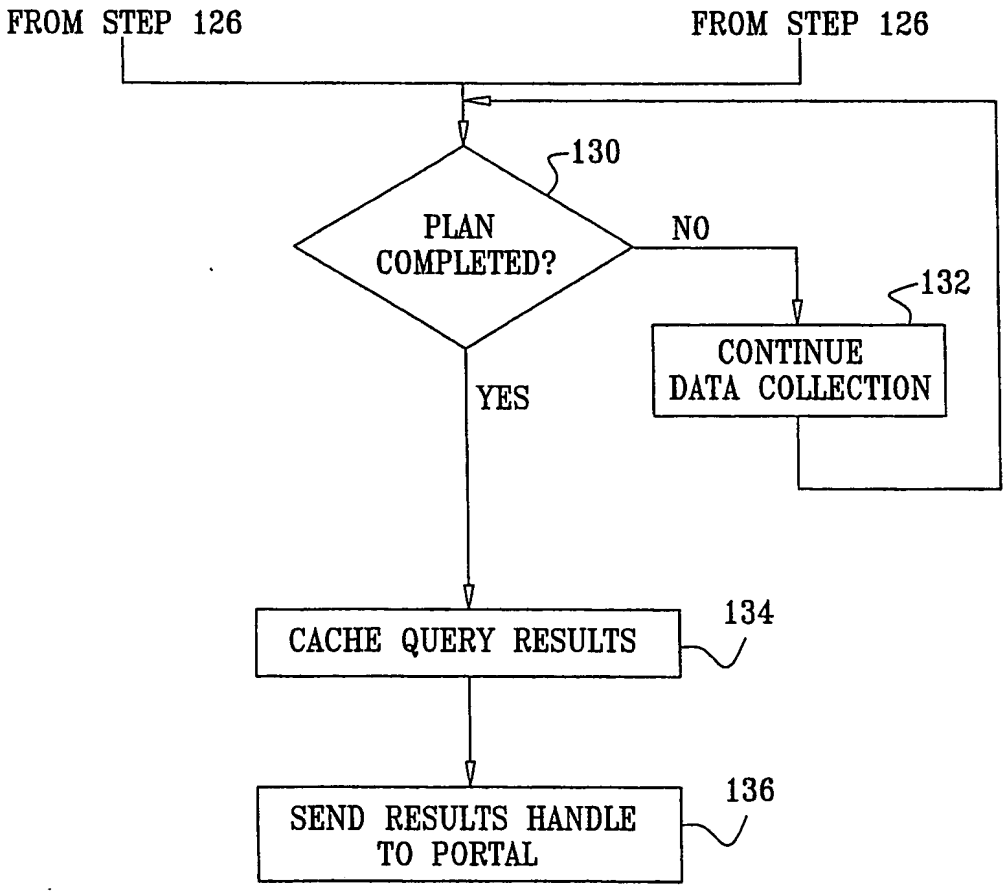
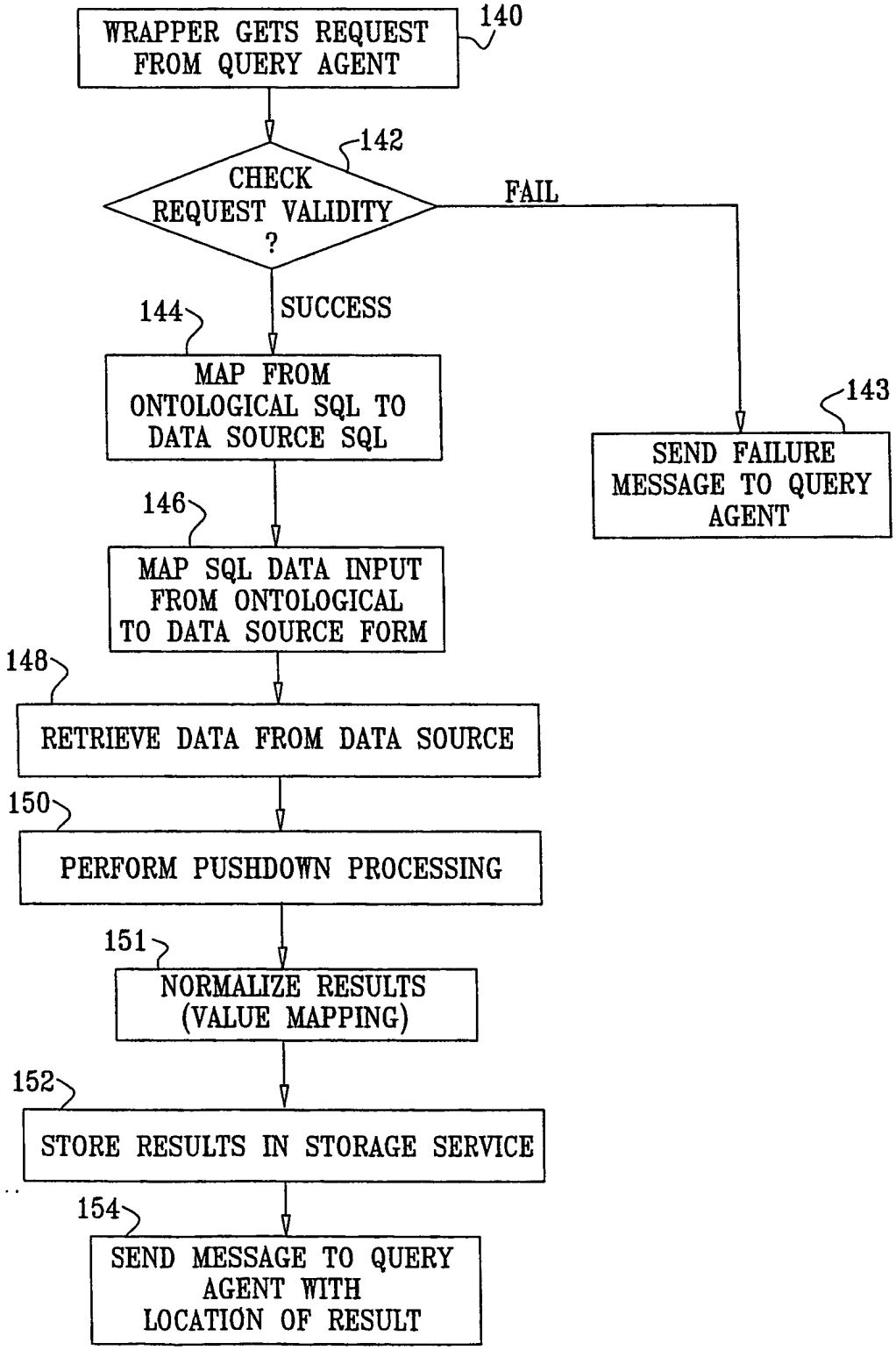

FROM STEP 126
FROM STEP 126
130
PLAN COMPLETED?
NO
132
CONTINUE DATA COLLECTION
YES
CACHE QUERY RESULTS
134
SEND RESULTS HANDLE TO PORTAL
136

FIG. 6


WRAPPER GETS REQUEST FROM QUERY AGENT
140
CHECK REQUEST VALIDITY ?
142
FAIL
SUCCESS
144
MAP FROM ONTOLOGICAL SQL TO DATA SOURCE SQL
143
SEND FAILURE MESSAGE TO QUERY AGENT
146
MAP SQL DATA INPUT FROM ONTOLOGICAL TO DATA SOURCE FORM
148
RETRIEVE DATA FROM DATA SOURCE
150
PERFORM PUSHDOWN PROCESSING
151
NORMALIZE RESULTS (VALUE MAPPING)
152
STORE RESULTS IN STORAGE SERVICE
154
SEND MESSAGE TO QUERY AGENT WITH LOCATION OF RESULT

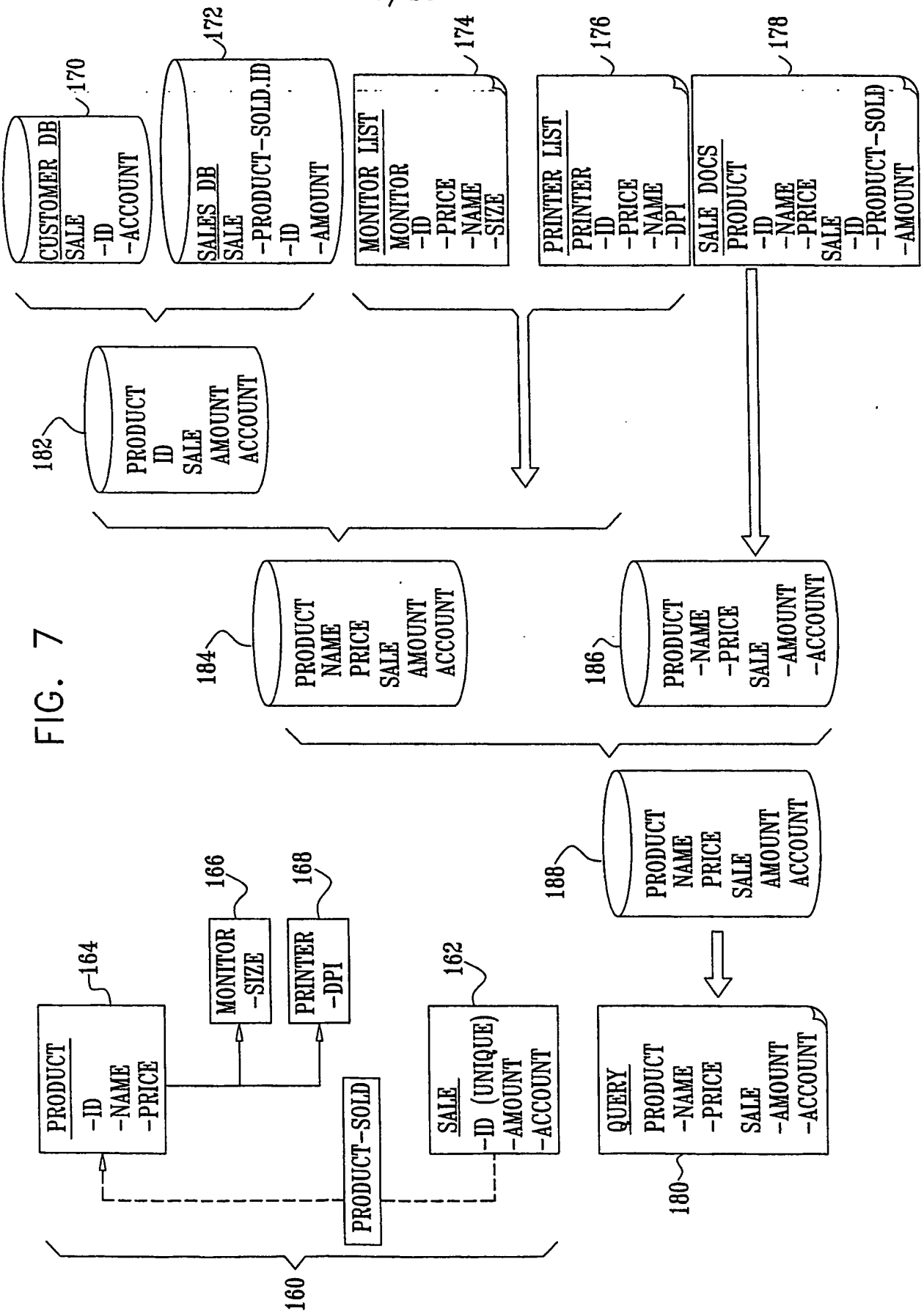

CUSTOMER DB
SALE
-ID
-ACCOUNT
170
SALES DB
SALE
-PRODUCT-SOLD.ID
-ID
-AMOUNT
172
MONITOR LIST
MONITOR
-ID
-PRICE
-NAME
-SIZE
174
PRINTER LIST
PRINTER
-ID
-PRICE
-NAME
-DPI
176
SALE DOCS
PRODUCT
-ID
-NAME
-PRICE
SALE
-ID
-PRODUCT-SOLD
-AMOUNT
178
182
PRODUCT
ID
SALE
AMOUNT
ACCOUNT
184
PRODUCT
NAME
PRICE
SALE
AMOUNT
ACCOUNT
186
PRODUCT
-NAME
-PRICE
SALE
-AMOUNT
-ACCOUNT
188
PRODUCT
NAME
PRICE
SALE
AMOUNT
ACCOUNT
PRODUCT
-ID
-NAME
-PRICE
164
MONITOR
-SIZE
166
PRINTER
-DPI
168
SALE
-ID (UNIQUE)
-AMOUNT
-ACCOUNT
162
PRODUCT-SOLD
QUERY
PRODUCT
-NAME
-PRICE
SALE
-AMOUNT
-ACCOUNT
180
160

FIG. 7

FIG. 8

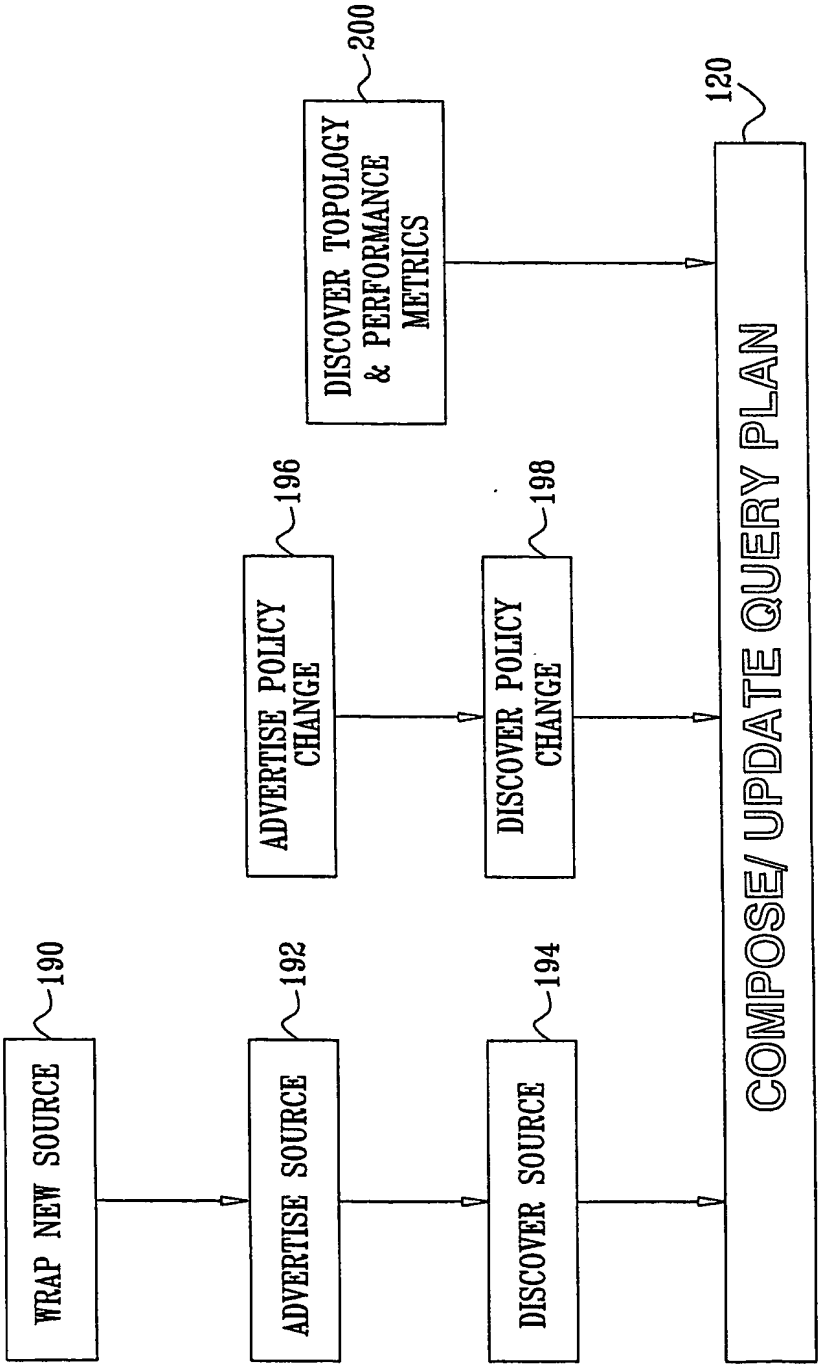

WRAP NEW SOURCE
190
ADVERTISE SOURCE
192
DISCOVER SOURCE
194
ADVERTISE POLICY CHANGE
196
DISCOVER POLICY CHANGE
198
DISCOVER TOPOLOGY & PERFORMANCE METRICS
200
COMPOSE/ UPDATE QUERY PLAN
120

FIG. 9A

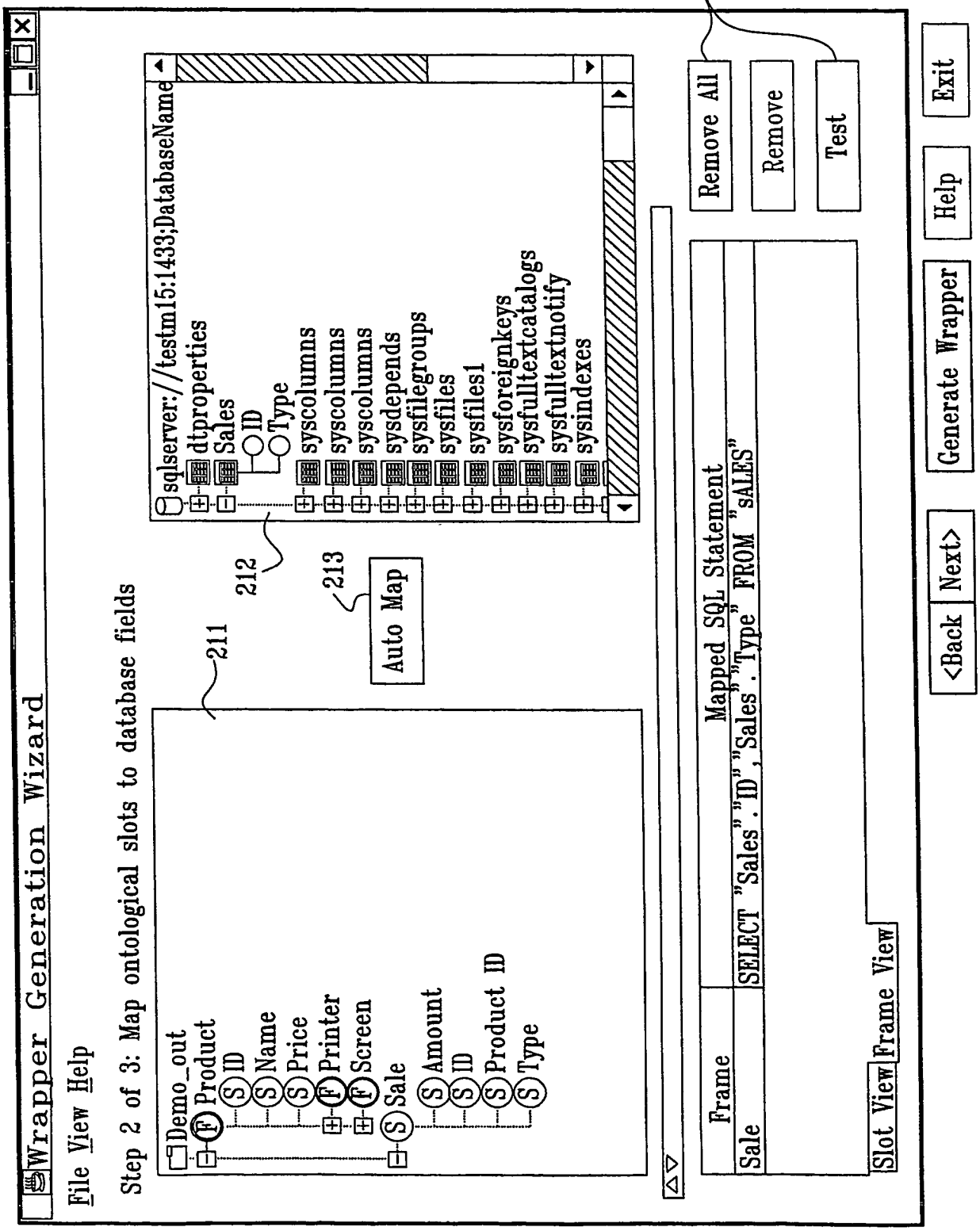
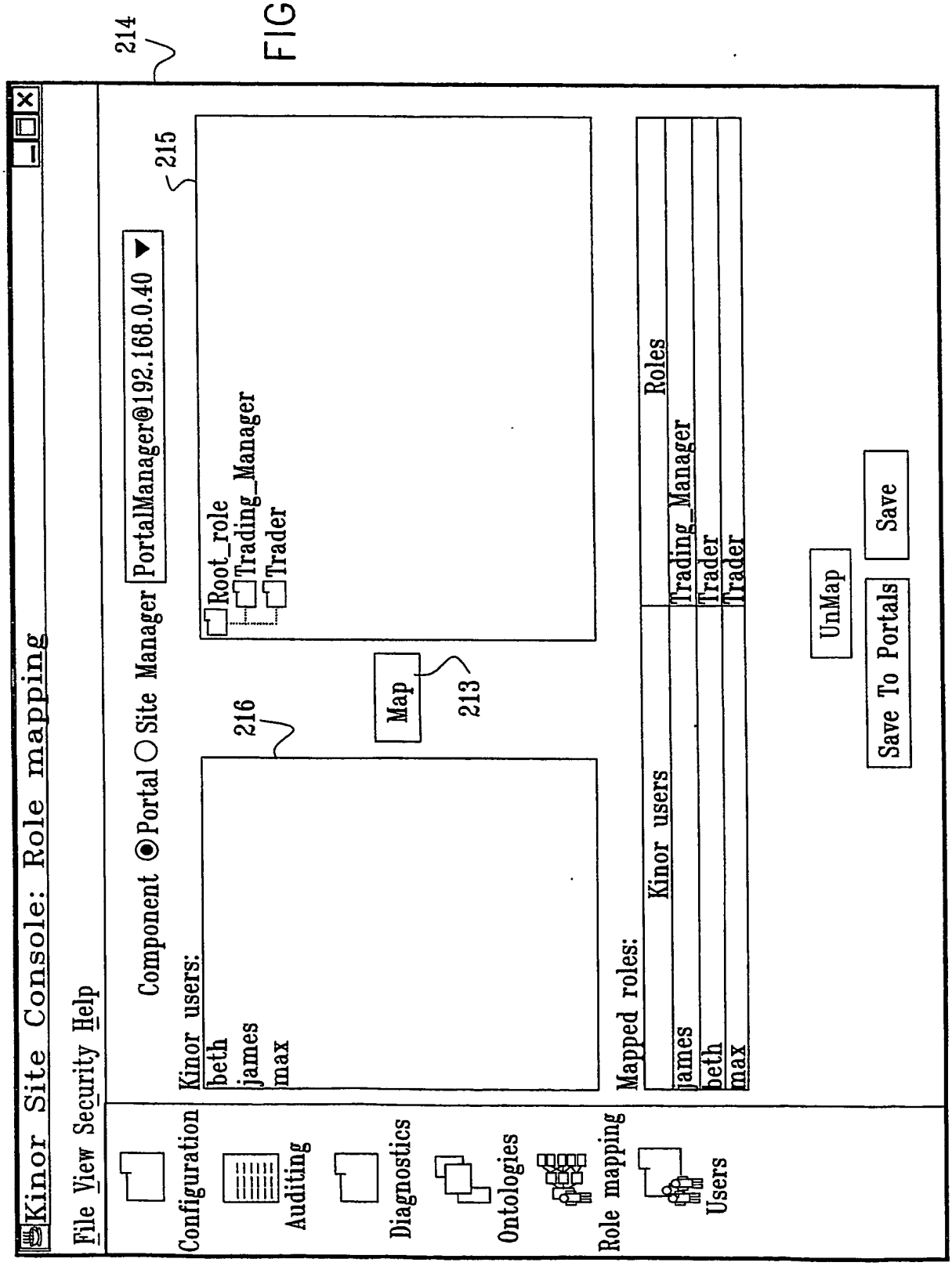

Wrapper Generation Wizard
File View Help
Step 2 of 3: Map ontological slots to database fields
Demo_out
Product
ID
Name
Price
Printer
Screen
Sale
Amount
ID
Product ID
Type
211
212
213
Auto Map
sqlserver://testm15:1433;DatabaseName
dtproperties
Sales
ID
Type
syscolumns
syscolumns
syscolumns
sysdepends
sysfilegroups
sysfiles
sysfiles1
sysforeignkeys
sysfulltextcatalogs
sysfulltextnotify
sysindexes
213
Remove All
Remove
Test
Mapped SQL Statement
Frame
Sale
SELECT "Sales"."ID","Sales"."Type" FROM "sALES"
Slot View
Frame View
<Back
Next>
Generate Wrapper
Help
Exit

FIG. 9B


Kinor Site Console: Role mapping
File View Security Help
Configuration
Auditing
Diagnostics
Ontologies
Role mapping
Users
Component Portal Site Manager
PortalManager@192.168.0.40
214
215
Root_role
Trading_Manager
Trader
Kinor users:
beth
james
max
216
Map
213
Mapped roles:
Kinor users
Roles
james
Trading_Manager
beth
Trader
max
Trader
UnMap
Save To Portals
Save

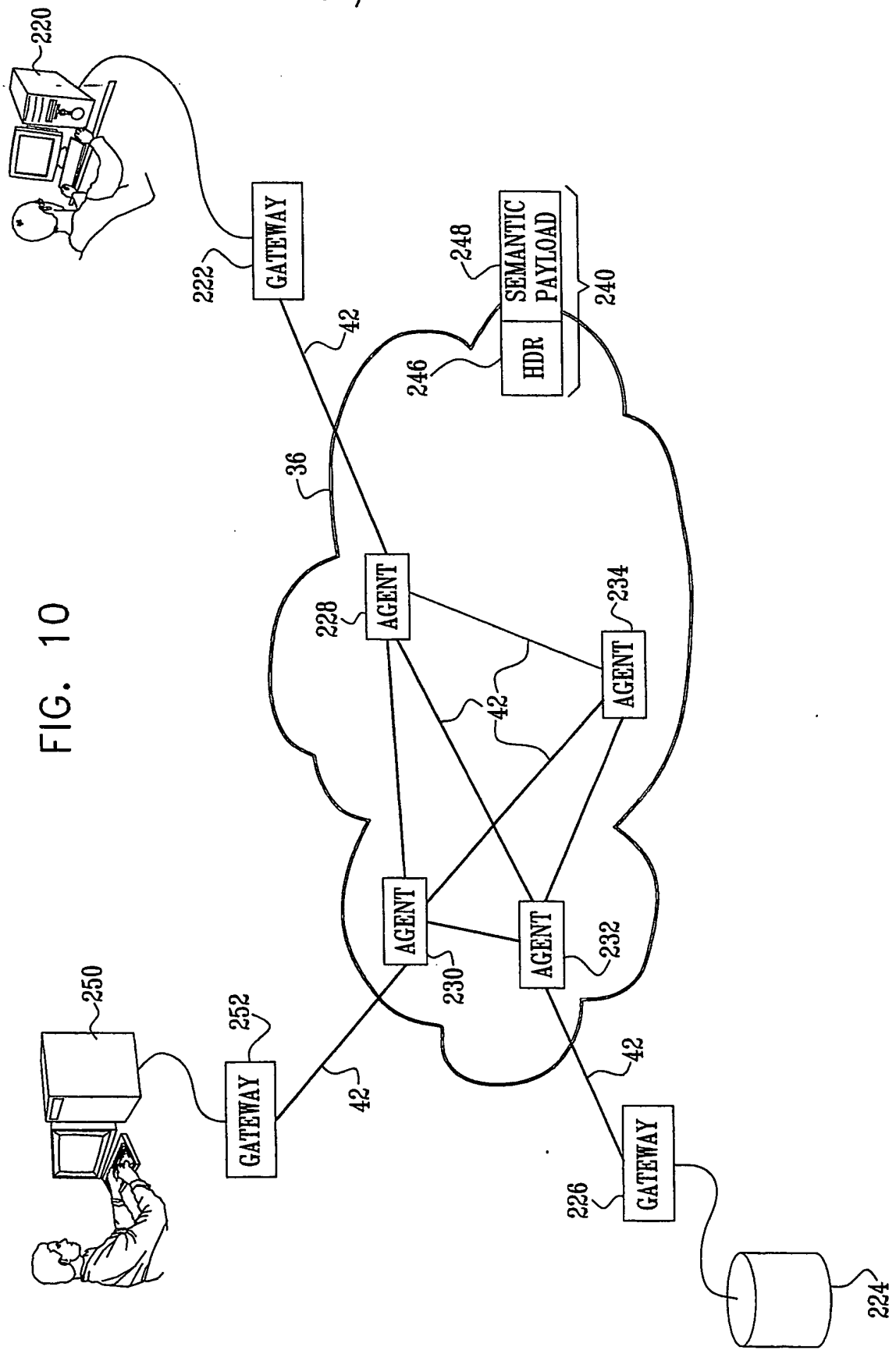

220
222
GATEWAY
42
248
SEMANTIC PAYLOAD
240
246
HDR
36
228
AGENT
234
AGENT
42
AGENT
230
AGENT
232
250
252
GATEWAY
42
42
226
GATEWAY
224

FIG. 10